**Dr. Courtney R. Wigdahl-Perry**

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* Ecology and Evolution (class)
* Science Communication: [Elmer Ploetz](http://www.fredonia.edu/department/communication/facultyfull.asp#ploetz) in Journalism doing a cross campus;
  + His students will interview her students
  + **Her student get used to communicating**
  + Science communication classes in the Biology Department as a capstone.
    - Moodle presentations
    - Polished Blog posts as a means of peer editing and presentation. Public posts are of a higher quality.
      * Guest posting
  + **Science Blog for the University**
    - One post a year
    - Has to be manageable
    - Buy in from majority the faculty
    - So it doesn’t land on one or two people and fizzle.
  + She used to do video blogs?
  + [Climate Change Institute U of Maine](http://climatechange.umaine.edu): [**Matt Nisbet**](http://climatechange.umaine.edu/people/profile/matthew_nisbet) ([Climate Shift Website](http://climateshiftproject.org/)) People’s perception of climate change and communication of climate risk. Positive in communication and very matter of fact. Addresses the way people mentally frame their perception of what climate change is and work from there. The essence of his message is this is a messy problem needing multiple solutions. Multipronged approach.
  + Blog posts on the buoy project.
* Aquatic Work
* Limnology: Lake Ecology (not ocean)
* Sam Mason: food web interactions
* Need sediment cores from the local lakes and South American sites
* In-lab experiments, small feeding experiments
  + Zooplankton harmed
  + Plastics harm them
  + As they are filter feeders
  + Affects the populations
  + Grazing rates
* Paleo work sediment cores: mostly in Maine
* Works on smaller systems than Great Lakes: Cassadaga, Chautauqua, Bear Lakes more workable size. NYS: Wants cores:
  + Anglers
  + Tourists
  + Farmers
  + Blue green algae are normal, but the nutrient feeds cause toxins.
  + Changes in light temp, nutrients, fertilizers
* Coring system for the smaller lakes:
  + One here, but not sure what’s there
  + $1,000 could be useful
  + Best is $4,000
  + More recent time scale of about a foot
  + Expense in dating $2,000 a core. Colleague at Maine would do the core for free if cited Tom Hassett U of Maine [check name].
* Diatom is primary focus
  + Glass cell wall so they are:
  + Sensitive to environmental change
  + Tell a lot about environmental change
  + Were used to prove acid rain range
    - PH
    - Nutrients
    - Droughts
    - Large scale environmental effects.
* Local work will do it
  + For students, ease of access to study sites
* NSF grant submitted
  + Small Grants was misunderstood by the reviewers
  + Reviews were not helpful, as they did not understand the premise.
  + Did not speak with the program officer
  + Will send to me.
* NSF one cycle per year for
  + PCE Population and Community Ecology [[now archived](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503414)]and
  + Ecosystems
  + Reviews
  + [EAGAR: Potentially Transformative Research Proposals](http://www.nsf.gov/about/transformative_research/submit.jsp).
  + The new Science Center and its equipment plus academic support will increase the quality of the proposal.
* [Chautauqua Lake Association](http://chautauqualakeassociation.org/): [Doug Conroe](http://chautauqualakeassociation.org/?page_id=37): President:
  + [Last year and this year the CLA and the Chautauqua Institution Operations Office have jointly conducted a Harmful Algal Bloom monitoring project in conjunction with the NYS Department of Environmental Conservation](http://chautauqualakeassociation.org/?p=602).
  + Working with Cornell Ponds
* Prairie Lake Grant
* High Resolution Monitoring Buoys:
  + [Gleon](mailto:http://www.gleon.org/) Global network (October meeting)
  + Measure in 15 minute intervals
    1. Chemistry
    2. Weather
    3. Carbon changes
    4. 50 sites now and more every day
    5. Very powerful data sets
    6. Acadia National Park
    7. Can add a sensor for blue green algal forms
    8. Pair that with the other data correlations can be make to look for causal factors.
* Meta-Data from the buoy
  + Can call a buoy and see what there.
  + Then go out and collect for lab analysis
  + Phosphorous sensors are in the works and needs to be done in the lab
  + [Fondriest Environmental in Ohio](http://www.fondriest.com/), sister company to [Nexsens Technology](http://www.nexsens.com/).
    - Team to make the buoy
* Blog on the buoy
* [YSI: multi probe](http://www.ysi.com/productsdetail.php?556MPS-21)
* [Hydrolab](http://hydrolab.com/)
* Best is $50,000, can get away with $20,000
  + Has to be designed around a question
  + Alga blooms in Chautauqua
  + She could be the plankton person on Chautauqua
* [“Wild Acadia”, U of Maine](http://friendsofacadia.org/programs/wild-acadia/), and a nonprofit at Jordon Pond
  + Nonprofit got the grant from [Canon USA: Friends of Acadia](mailto:http://usa.canon.com/cusa/about_canon/community_environment/environmental_commitment/standard_display/abtcan_ce_friendsofacadia_mischttp://usa.canon.com/cusa/about_canon/community_environment/environmental_commitment/standard_display/abtcan)
  + Beach cleanup
  + Youth component
  + Buoy has been updated.
* Science in the area:
  + How the ecosystem works
  + Cost effective
  + From Wisconsin understands the practical side of changes
  + To make things understandable on how work with managers
  + Can have Internet sites that have live data on the system from the buoy.
* [Chautauqua regional support](http://crcfonline.org/chautauquagrants/) for the Buoys
  + Sheldon
  + Lenna
  + [Chautauqua Region Community Foundation](http://crcfonline.org/)
* Built in Student Project,
  + Collect samples
  + Service every two weeks
  + Analyze samples in the lab
* Education Coalition:
  + K-16
  + BOCES
  + [Science Teachers Association of NYS: Western Section](http://www.westernstanys.com/)
  + CRCF: Stem group.
* South American Work!
  + Peru two projects
  + Archaeologist
  + Needs to get foreign water samples into the USA
  + Human occupation and environmental resource changes.
  + [Kurt Rademaker](http://umaine.edu/anthropology/faculty-staff/dr-kurt-rademaker/): PhD program mates at Maine.
    - Like Lake ecology materials
    - Trying to get the stuff here.
    - Might be taking a post doc in Europe
  + How do we get it into the USA
  + She supplies them sampling
  + Ice Core samples: [**Dynamics of** **Coupled Human and Natural Systems**](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13681) **(CNH) NSF**
  + [Gordon Bromley](http://climatechange.umaine.edu/people/profile/gordon_bromley) PhD Mate
  + Ice Cap Records
  + Geomorphology
  + Environmental resources and people affect.
    - People affecting the environment
    - The environment affecting people
  + Paleo-biology Program
  + Another ask for a diatom counts in Peru. [IGERT](http://www.igert.org/) program.
* Diatom: Calibration sets or training sets.
  + 60-100 lakes in an area collect surface mud and water
  + Algorithm can find factors of certain species are there.
    - Calculate the optimal environments of what species was most likely to be there
    - **Transfer Function**: take calibration set and go back through time. Develop one for this region. <http://www.sciencedirect.com/science/article/pii/003101829400122O>
    - Good for legislation changes as politicians want numbers.
* Sedimentary Zooplankton is also a part of her studies.
  + Dickenson colleague: [Kristin Strock](http://www.dickinson.edu/site/custom_scripts/dc_faculty_profile_index.php?fac=strockk) similar work but on streams.
  + England is the cheaper way to do the work: [Suzanne McGowan](http://www.nottingham.ac.uk/geography/people/suzanne.mcgowan) Loughborough University [Nottingham U.?]
    - Great student experience
* Argentina in July 2015.
  + International Links
  + [Jasmine Saros](http://climatechange.umaine.edu/people/profile/jasmine_saros) her advisor working there for years
    - Contact for buoy system at Acadia
    - Like to get out to the Prairie again.
    - Resources in her lab plus her students make a great resource
    - Rebuilding her lab and might be able to lend her equipment.
  + [Climate Change Institute U of Maine](http://climatechange.umaine.edu/).